

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An electro-luminescence display device, comprising:
 - a panel;
 - a plurality of data lines arranged within the panel;
 - a supply voltage source for applying a supply voltage to the panel;
 - a data driver for receiving externally inputted digital data signals and for applying analog data signals to the plurality of data lines in correspondence with the externally inputted digital data signals;
 - a gamma voltage generator for generating a plurality of gamma voltages having a plurality of voltage levels, wherein the gamma voltages are usable in forming the analog data signals; and
 - a threshold voltage compensator arranged between the gamma voltage generator and the supply voltage source for controlling the supply voltage to compensate for a threshold voltage of drive thin film transistors and for applying the controlled supply voltage to the gamma voltage generator.
2. (Original) The electro-luminescence display device according to claim 1, wherein the panels includes:
 - a plurality of electro-luminescence cells arranged in a matrix pattern; and
 - a plurality of drive thin film transistors for applying a current to corresponding ones of the plurality of electro-luminescence cells, wherein the current corresponds to a reference voltage substantially equal to a difference between a threshold voltage of the drive thin film transistors and the supply voltage.
3. (Original) The electro-luminescence display device according to claim 2, wherein the threshold voltage compensator lowers the supply voltage and applies the lowered supply

voltage to the gamma voltage generator.

4. (Original) The electro-luminescence display device according to claim 3, wherein the threshold voltage compensator applies the reference voltage to the gamma voltage generator; and

the gamma voltage generator divides the reference voltage.

5. (Original) The electro-luminescence display device according to claim 3, wherein the threshold voltage compensator includes at least one threshold voltage compensation thin film transistor.

6. (Original) The electro-luminescence display device according to claim 5, wherein the at least one threshold voltage compensation thin film transistor includes:

a source electrode connected to the supply voltage source;

a drain electrode connected to the gamma voltage generator; and

a gate electrode connected to the gamma voltage generator.

7. (Original) The electro-luminescence display device according to claim 5, wherein a threshold voltage of the threshold voltage compensation thin film transistor is substantially equal to a threshold voltage of the plurality of drive thin film transistors.

8. (Original) The electro-luminescence display device according to claim 5, wherein the panel includes:

at least one red electro-luminescence cell for expressing red light;

at least one green electro-luminescence cell for expressing green light; and

at least one blue electro-luminescence cell for expressing blue light; and wherein the gamma voltage generator includes:

a red gamma voltage supplier for generating a gamma voltage applicable to the at least one red electro-luminescence cell;

a green gamma voltage supplier for generating a gamma voltage applicable to the at least one green electro-luminescence cell; and

a blue gamma voltage supplier for generating a gamma voltage applicable to the at least one blue electro-luminescence cell.

9. (Original) The electro-luminescence display device according to claim 8, wherein the threshold voltage compensator includes three threshold voltage compensation thin film transistors connected to corresponding ones of the red, green, and blue gamma voltage suppliers.

10. (Original) The electro-luminescence display device according to claim 1, further comprising:

a scan driver coupled to the panel for controlling the application of the analog data signals;

a scan tape carrier package for electrically connecting the scan driver to the panel; and

a data tape carrier package for electrically connecting the data driver to the panel.

11. (Original) The electro-luminescence display device according to claim 10, wherein the threshold voltage compensator is electrically connected to the gamma voltage generator via the scan tape carrier package.

12. (Original) The electro-luminescence display device according to claim 10, wherein the threshold voltage compensator is electrically connected to the gamma voltage generator via the data tape carrier package.

13. (Original) The electro-luminescence display device according to claim 1, further comprising a flexible printed circuit for electrically connecting the threshold voltage compensator to the gamma voltage generator.

14. (Canceled)

15. (Currently Amended) The electro-luminescence display device according to claim [[14]] 17, wherein a resistance of the variable resistor is adjustable such that pictures are

displayable by the plurality of panels at a substantially uniform brightness.

16. (Canceled)

17. (Currently Amended) ~~The electro-luminescence display device according to claim 16;~~ An electro-luminescence display device, comprising:

a plurality of panels wherein each of the panels include a plurality of electro-luminescence cells arranged in a matrix pattern; and a plurality of drive thin film transistors for applying a current to corresponding ones of the electro-luminescence cells, wherein the current corresponds to the analog data voltage;

a plurality of drive thin film transistors for applying a current to corresponding ones of the electro-luminescence cells, wherein the current corresponds to the analog data voltage;

data drivers coupled to each of the plurality of panels for receiving externally inputted digital data signals; and

a plurality of red, green, and blue gamma voltage suppliers coupled to each of the data drivers for dividing a supply voltage applied by a supply voltage source into a plurality of gamma voltages, wherein the plurality of gamma voltages are usable in forming analog data voltages corresponding to the received externally inputted digital data signals, wherein each of the gamma voltage suppliers includes:

a fixed resistor and a variable resistor connected in series to the supply voltage source and to a ground voltage source for dividing the supply voltage; and
a plurality of resistor pairs connected in parallel for generating the gamma voltages using the divided supply voltage;
wherein a resistance of the variable resistor is adjustable to compensate for threshold voltages of drive thin film transistors in different ones of the plurality of panels, wherein threshold voltages of drive thin film transistors of different panels are different.

18. (Original) A method of driving an electro-luminescence display device, comprising: providing a plurality of panels, wherein each panel includes a plurality of thin film transistors;

providing a power voltage control circuit to each of the plurality of panels;

providing a common power voltage to each of the power voltage control circuits;
controlling a common power voltage applicable by each of the power voltage control circuits in accordance with a threshold voltage of the thin film transistors in each of the panels;
and
generating a gamma voltage within each of the panels using corresponding ones of the controlled common power voltages.

19. (Original) The method of driving according to claim 18, wherein each power voltage control circuit lowers corresponding ones of the common power voltages.

20. (Original) The method of driving according to claim 19, wherein each power voltage control circuit lowers the common power voltage to a level substantially equal to the threshold voltage of the thin film transistors in corresponding ones of the panels.

21. (Original) A method of driving an electro-luminescence display device, comprising:

providing a plurality of panels;
providing a plurality of thin film transistors within each of the plurality of panels, wherein each plurality of thin film transistors includes a threshold voltage;
providing a gamma voltage generator to each of the plurality of panels for generating a plurality of gamma voltages;
applying a common power voltage to each of the gamma voltage generators; and
generating the plurality of gamma voltages in accordance with the threshold voltage of each plurality of thin film transistors.

22. (Original) The method of driving according to claim 21, further comprising applying the same data signals to the panels, wherein each gamma voltage generator generates the gamma voltages such that pictures are displayable at a substantially uniform brightness by the plurality of panels to which the data signals are applied.

23. (Currently Amended) An electro-luminescence display device, comprising:

a plurality of panels;

a data driver provided to each of the plurality of panels for receiving externally inputted data signals; and

a plurality of gamma voltage generators, each associated with one of the plurality of panels, provided to each data driver for applying a plurality of gamma voltages to corresponding ones of the data drivers, wherein the gamma voltages are usable in forming analog data signals corresponding to the externally inputted data signals and wherein different gamma voltages are applicable by different gamma voltage generators such that pictures are displayable at a substantially uniform brightness by the plurality of panels.

24. (Original) The electro-luminescence display device according to claim 23, wherein each gamma voltage generator includes at least one variable resistor.

25. (Original) The electro-luminescence display device according to claim 24, wherein a resistance of each variable resistor is adjustable such that pictures are displayable at a substantially uniform brightness by the plurality of panels.

26. (Original) The electro-luminescence display device according to claim 24, wherein each gamma voltage generator includes:

a first and a second fixed resistor connected to a supply voltage source and a ground voltage source, respectively; and

a plurality of variable resistors connected between the first and second fixed resistors.

27. (Original) The electro-luminescence display device according to claim 26, wherein a resistance of each variable resistor is adjustable such that pictures are displayable at a substantially uniform brightness by the plurality of panels.

28. (Original) The electro-luminescence display device according to claim 27, wherein each of the panels includes:

a plurality of electro-luminescence cells arranged in a matrix pattern; and

a plurality of drive thin film transistor for applying a current to corresponding ones of

the plurality of electro-luminescence cells, wherein the current corresponds to the analog data voltage.

29. (Original) The electro-luminescence display device according to claim 28, wherein the resistance of each variable resistor is adjustable to compensate for threshold voltages of drive thin film transistors of each of the plurality of panels.

30. (Original) The electro-luminescence display device according to claim 28, wherein each panel includes:

at least one red electro-luminescence cell for expressing red light;

at least one green electro-luminescence cell for expressing green light; and

at least one blue electro-luminescence cell for expressing blue light; and wherein each gamma voltage generator includes:

a red gamma voltage supplier for generating a gamma voltage applicable to the at least one red electro-luminescence cell;

a green gamma voltage supplier for generating a gamma voltage applicable to the at least one green electro-luminescence cell; and

a blue gamma voltage supplier for generating a gamma voltage applicable to the at least one blue electro-luminescence cell.